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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/931,862 | 08/20/2001 | Hae-Kyoung Kim | 249/274 | 3541 |

7590 07/14/2004
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EXAMINER

DOVE, TRACY MAE

ART UNIT PAPER NUMBER

1745

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------|--------------------------------------|--|--|
| Advisory Action | Application No. 09/931,862 | Applicant(s) KIM, HAE-KYOUNG | |
| | Examiner Tracy Dove | Art Unit 1745 | |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 22 June 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

PERIOD FOR REPLY [check either a) or b)]

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

1. ☐ A Notice of Appeal was filed on _____. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
 - (b) ☒ they raise the issue of new matter (see Note below);
 - (c) ☐ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
 - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See attached sheet.

3. ☒ Applicant's reply has overcome the following rejection(s): the objection to the specification.
4. ☐ Newly proposed or amended claim(s) _____ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☐ The a) ☐ affidavit, b) ☐ exhibit, or c) ☐ request for reconsideration has been considered but does NOT place the application in condition for allowance because: _____.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: _____.

Claim(s) objected to: _____.

Claim(s) rejected: 1-23.

Claim(s) withdrawn from consideration: _____.

8. ☐ The drawing correction filed on _____ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____.
10. ☐ Other: _____

Attachment to Advisory Action in response to after-final amendment of 6/22/04

The amendments to the claims raise the issue of new matter. Specifically, the limitation “the reinforcing agent being separate from the ion-exchange polymer” indicates that the reinforcing agent and ion-exchange polymer are not in direct contact. However, the claims and specification teach a “reinforced composite ionic conductive polymer membrane” and “a slurry of the ion-exchange polymer and the reinforcing agent”, which indicates that while the reinforcing agent and ion-exchange polymer are separate materials, they are not separated from each other (in direct contact).

Regarding Bahar, Applicant argues the examples of Bahar do not employ the disclosed powders added to the polymer. However, Bahar is not limited to the specific examples disclosed. Bahar teaches the claimed invention, see col. 4, lines 58-col. 5, lines 14. Ion exchange materials may be complemented by finely divided powders (silica, titanium dioxide, platinum) to provide final composites. Both Bahar and the claimed invention teach a reinforced composite ionic conductive polymer membrane. Note Bahar teaches the composite may formed using a slurry of the ion exchange material (and optionally the powder) in a solvent (col. 6, lines 19-39). Examiner points out that the Examples of the present specification do not illustrate the superior results achieved when a separate reinforcing agent is used together with the ion-exchange polymer. The Examples and Bahar both teach a slurry (mixed reinforcing agent and polymer). Bahar specifically discloses the addition of the claimed reinforcing agent.

Regarding Grot, Applicant argues, like Bahar, Grot fails to disclose the use of a reinforcing agent in addition to the ion-exchange polymer. Rather these documents merely describe conventional fillers and additives incorporated into polymers. It is unclear what

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Applicant is attempting to argue. The examples in the present specification teach the ion exchange polymer and the reinforcing agent are mixed thoroughly to obtain a reinforced membrane slurry. Thus, the reinforcing agent is incorporated into the polymer because they are "mixed thoroughly".


Regarding Watanabe in view of Grot, Applicant applies the same argument used to argue the anticipation rejections of Bahar and Grot. Examiner has already addressed this argument (see above).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tracy Dove whose telephone number is 571-272-1285. The examiner can normally be reached on Monday-Thursday (9:00-7:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

July 8, 2004


Patrick Ryan
Supervisory Patent Examiner
Technology Center 1700